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Significance of the Asset and Liability View and the Revenue and Expense View in Income Measurement

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1 . Introduction

As is well known, the Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) have adopted the Asset and Liability View (ALV) as their primary measure of income. The senior project managers of FASB and IASB explain the reason as follows: “That definition of income [the income in the asset and liability view] is grounded in a theory prevalent in economics [the economic income concept advocated by Hicks]” (Bullen and Crook [2005] p. 7).

On the other hand, income (i. e., operating income) in the actual income statement is partly measured by matching periodic revenues and expenses. In other words, even though ALV is mainly adopted, the Revenue and Expense View of income (REV) is partly adopted in the income statement. This might imply a mutually complementary relationship between ALV figures and REV figures.

How can this relationship be explained? This paper defines the two views and then shows what makes them different by studying four classic American accounting theories published in the 20th century. It also reveals the practical strengths and weaknesses of the two views by analyzing a Japanese case that emphasizes the difference. Finally, this paper discusses the mutually complementary relationship

between them.

2. Theoretical Discussion : the Difference between ALV and REV

2.1. The Features of ALV and REV in FASB [1976]

In the FASB [1976], which defined ALV and REV for the first time, these views are described as follows.

In the asset and liability view, income is viewed “as an increase or decrease in net assets or capital of an enterprise over a period (between two points in time)” (FASB [1976] par. 30). However, the changes in net assets or capital caused by capital contributions or capital withdrawals are excluded from income (FASB [1976] par. 36). Because assets and liabilities, which are the computational elements of net assets, are the determinants of income, “[a]ssets and liabilities – financial representations of economic resources of an enterprise and its obligations to transfer resources to other entities” (FASB [1976] par. 34) are the key concepts in this view.

On the other hand, in the revenue and expense view, income is viewed “as the difference between the enterprise’s revenues and expenses for the period” (FASB [1976] par. 30). In this view, because revenues and expenses are the direct determinants of income, “[r]evenues and expenses – financial representations of outputs from and inputs to enterprise earning activities” (FASB [1976] par. 38) are the key concepts.

The following two statements in FASB [1976] imply the difference between these views.

[T]he primary concern in the revenue and expense view is to measure earnings of the enterprise, not to measure increase and decrease in its wealth.

(FASB [1976] par. 41)

Those definitions of income or earnings include increase in wealth from all sources, not just from 'operations'. (FASB [1976] par. 262)

However, the following statement clouds the difference.

The asset and liability view and the revenue and expense view overlap significantly in articulated financial statements and may often measure the same attributes of assets, liabilities, revenues, and expenses, recognize the same events as revenue and increases in net assets, and recognize the same events as expenses and decreases in net assets. In other words, the same earnings can be both a measure of performance or effectiveness of an enterprise and a measure of increase in its wealth. (FASB [1976] par. 46)

In order to discuss the difference between these two views at a more general level, this paper refers to ALV as Net Resource Model (NRM) for the computation of income as changes in net resources of an enterprise between two points in time (excluding capital contributions or capital withdrawals) and REV as Input Output Model (IOM) for the computation of income as the difference between the enterprise's revenues and expenses for the period. About these models, the first question arises.

Question 1 : Should the amount of increase in the net assets of an enterprise between two points in time (excluding capital contributions or capital withdrawals) correspond to the amount of difference between the enterprise's revenues and expenses for the period ?

To this question, Alexander [1950], who analyzes NRM and IOM, replies, “[T]he two approaches can coincide but they will do so only under highly special conditions such that no change in equity takes place except through the selected operation” (Alexander p. 17). Yet, the difference in constituent elements between these incomes and the cause for this difference have not been well understood. Therefore, the next question arises.

Question 2 : What causes the disparity between the amount of increase in net assets of an enterprise over a period (excluding capital contributions or capital withdrawals) and the difference between the enterprise’s revenues and expenses for the period? And what are the constitutive differences between these two incomes?

When this question is examined, the statement in Bullen and Crook [2005] must be remembered. They point out that the income in ALV is grounded in Hicks’s economic income concept of individuals as consumers. In other words, a business or a corporation is viewed as a consumptive individual in ALV. Does this view of a corporation correspond to the view in REV? In REV, a business or a corporation is viewed as the entity that uses inputs to create outputs. In this section, a hypothesis that the way a corporation is viewed is the determinant of an income measurement model is proposed, and this hypothesis is examined by studying the relation between corporation views and income measurement models in four classic American accounting theories published in the 20th century, because they are seen as the source books of FASB [1976]. On that basis, the difference between NRM and IOM in the constituent elements of income would be shown.

2.2. The Relations between Two Corporation Views and Two Income Measurement Models in Four Classic American Accounting Theories

(1) The Relation in Edwards and Bell [1961]

Edwards and Bell regard the economic income concept as a starting point of their theory and describe it this way :

The concept of income¹⁾ most widely appealed to by economists working in this area is as follows : ‘... a person’s income is what he can consume during the week and still expect to be as well off at the end of the week as he was at the beginning.’ Income in this sense is a welfare concept applicable to any individual regardless of the nature or source of his expected receipts. (Edwards and Bell p. 24)

Because “welfare” is what a “person” can “consume,” this income concept is a measure for the individual as consumer. Edwards and Bell recognize business income as a derivation of this concept and propose the following method of measuring business income :

In the absence of dividend payments and new contributions by stockholders, income is measured at the end of the period by adding up the discounted values of all net receipts which the managers then expect to earn on the firm’s existing net assets and subtracting from this subjective value a similar computation made at the beginning of the period. (Edwards and Bell pp. 24-25)

This method is consistent with NRM, because the increase or decrease of net

1) Edwards and Bell quote this concept from page 176 at Hicks [1946].

resources as discounted values of all net receipts over a period is recognized as business income. Edwards and Bell regard this income as a derivation of personal economic income. Therefore, they indicate the relation that NRM derives from the view of a corporation as an individual consumer. However, they do not argue the validity of this view.

(2) The Relation in Sterling [1979]

As opposed to Edwards and Bell, Sterling makes convincing arguments for adopting NRM based on his view of the corporation. He raises an issue about attribution of wealth and income as follows :

The concepts of wealth and income must refer to a specific person or specific group. (Sterling p. 155)

He rejects the attribution of wealth and income to the firm for the following reason.

The firm, at least in its corporate form, is known to be a fictitious person. Since this fictitious person is not a consumer, we can conclude that ability to command consumer goods is irrelevant. [...] The owner is a real person, a consumer. (Sterling pp. 155-156)

Sterling thinks that wealth and income have to be attributed to consumers because he believes that wealth and income are to be consumed. A firm is not a consumer, and he considers that measuring wealth and income attributable to a firm is meaningless. On the other hand, the owner is a consumer, and he considers that measuring wealth and income attributable to the owner is meaningful. Using this

logic, he deduces the following method of measuring business income :

The undisputed definition of income is that it is the difference between wealth at two points in time after adjusting for consumption for individuals or investment for firms. (Sterling p. 191)

This method is consistent with NRM, because the increase or decrease of net resources, equivalent to wealth, over a period (excluding capital contributions or capital withdrawals) is recognized as business income. Sterling believes that income attributable to the owner has to be measured because the firm is not a consumer but the owner is a consumer. Therefore, Sterling indicates that the use of NRM derives from the view of a corporation as a generator of wealth for the owner as consumer.

(3) The Relation in Paton and Littleton [1940]

The corporation view in Paton and Littleton [1940] differs substantially from the former views :

[A]ccounting theory likewise is oriented first to the enterprise as a productive economic unit and only secondly to the investor as a legal claimant to assets. (Paton and Littleton p. 11)

As the quotation indicates, Paton and Littleton regard business as a productive unit rather than a generator of wealth for the owner as consumer. They explain its purpose as follows :

Great corporations are quasi-public institutions, mechanisms for social

cooperation in the conduct of large-scale business enterprise. (Paton and Littleton p. 2)

Because the purpose of business as a productive unit should be to conduct operating activities, information to evaluate its production operations is needed. Paton and Littleton indicate this necessity as follows :

Capital should flow into those industries which serve the public interest, and within an industry into those enterprises in which the management is capable of using capital effectively. If capital in an enterprise is earning a return over a considerable period, this probably indicates that the capital is being capably employed in an industry serving an existing demand ; if the capital is not earning a return over a period of time, this probably indicates that capital is lodged in incapable hands or in an industry whose service is not in continuing demand. (Paton and Littleton p. 3)

Then the method of measuring business income which indicates the business's contribution to the public interest is shown as follows :

Accounting does not match disbursements and receipts, but efforts and accomplishments, service acquired and service rendered, acquisition price-aggregates and disposition price-aggregates. (Paton and Littleton p. 16)

Because business income is measured by matching disposition price-aggregates as financial representations of outputs from operating activities and acquisition price-aggregates as financial representations of inputs to them, this method is consistent with IOM. Paton and Littleton advocate IOM to evaluate the effectiveness of

operating activities which business as a productive unit conducted. Therefore, Paton and Littleton [1940] show how the use of IOM derives from the view of a corporation as a productive unit.

(4) **The Relation in Bedford [1965]**

In Bedford [1965], business is viewed as a productive unit :

In fact, the social justification for the existence of a business entity is that it produces something desired by individuals who collectively represent society, and this is true whether the thing desired is psychic or real. (Bedford p. 23)

Bedford shows the way to evaluate whether business produces something desired by society :

If the entity puts forth a highly desirable product, in the sense that the product provides a means to satisfy a great number of human wants, people will pay a high price for it. But if a business entity puts forth a product which does not provide a means of satisfying individual psychic wants, society eliminates that entity by not buying its product and returning no income to it. Thus business income represents the price paid by consumers for the products of business in excess of the expenses of the business. (Bedford p. 23)

As the quotation indicates, the difference between the price paid by consumers for a business's products and the expenses of the business indicates the social justification for the existence of a business entity. Bedford shows the method of measuring business income as follows :

The matching technique of measuring income, as it is now used, permits one to gauge overall managerial efficiency, in that it matches efforts applied (productive resources used) against the accomplishments (money resources acquired) of such efforts. [...] [I]ncome reflects the ability of the company to use in an effective manner resources acquired from others. [...] Since revenue represents accomplishment, in that revenue is assumed to be a measure of the worth of products delivered to customers, and expense represents effort applied to acquire the revenue, the net result of matching the two is an index of the effectiveness with which the company has used resources. (Bedford pp. 90-91)

This method is consistent with IOM because business income is measured by matching the worth of products delivered to customers, as financial representations of outputs from operating activities, and effort applied to acquire the revenue, as financial representations of inputs to operating activities. Bedford advocates IOM to evaluate the effectiveness of operating activities of a productive business. Therefore, Bedford [1965] shows how the use of IOM derives from the view of a corporation as a productive unit.

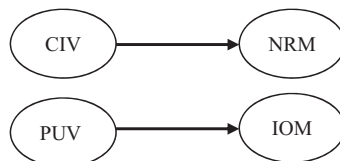
2.3. Should the Income Measured by Net Resource Model Correspond to the Income Measured by Input Output Model ?

The analysis of the four classic American accounting theories shows that corporation views are determinant of income measurement model. That is, NRM derives from the Consumptive Individual²⁾ View (CIV) and IOM derives from the Productive Unit View (PUV). But it is not clear whether the income measured by

2) Or rather we should say a wealth generator for consumptive individual (owner of the business).

NRM corresponds to the income measured by IOM.

The Determinant of Income Measurement Model



In some classical American accounting theories, it is explained that the income measured by NRM is attributable to owners or the increase or decrease in net resources. However, the following two quotations from Paton and Littleton [1940] and Bedford [1965] indicate that the income measured by IOM does not take either character :

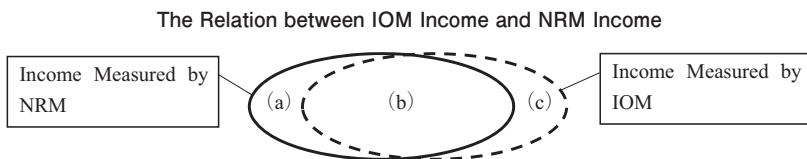
Gains and losses are changes in enterprise assets, not in proprietors' assets or in stockholders' assets. Accounting theory, therefore, should explain the concepts of revenue and expense in terms of enterprise asset-changes rather than as increases or decreases in proprietors' or stockholders' equities. (Paton and Littleton p. 9)

[I]ncome is not a measure of the increase in economic resources or 'values' accruing to a company over a period of time. Rather, income reflects the ability of the company to use in an effective manner resources acquired from others. Normally, the effective use of such resources results in an increase in the 'worth' of the business, but the measurement of this increase by the matching process does not presume to reflect all increases in value accruing to the business entity. Income, as computed by the matching process, therefore, is more of an index of managerial effectiveness than it is a measure of 'value'

increases ; and it is so recognized by most students of accounting. (Bedford p. 91)

Why is the income measured by NRM different from the income measured by IOM ? It is because the former is “the increase in “generalized means to satisfy human wants”” (Bedford p. 71), whereas the latter is “the extent to which business has created values which consumers believe will satisfy individual wants” (Bedford p. 23). These are quite distinct concepts. Generally, human wants are satisfied from consumption, and business creates values by productive operations. Therefore, the income measured by NRM can be generalized down to the change in amount available for owner’s consumption, whereas the income measured by IOM can be generalized down to the value created by the business’s productive operations.

The following diagram shows the relation between the change in amount available for human consumption and the value created by the business’s productive operations. As shown by this diagram, (a) and (c) are mutually exclusive. So, the income measured by NRM does not correspond to the income measured by IOM.



Part (c) can be recognized because the emergence of the value created by the business’s productive operations does not always affect the amount available for human consumption. The sales amount reported in an income statement is the value created by the business’s productive operations, but it is not always the

increase in the amount available for human consumption, because the change in the amount available for human consumption can never be figured out unless expenses are deducted from the amount. In other words, the gross amount of revenues and expenses reported in an income statement represents the creation and diminution of value by the business's productive operations. Therefore, the gross amount of revenues and expenses is recognized by IOM but is not always recognized by NRM.

Part (a) is recognized when human consumption increases without a business conducting productive operations. Major examples of this are donation and forgiveness of debt. When a business receives a donation or is forgiven its debt, its net assets will increase because of increment of assets or decrement of liabilities. This increases the amount available for consumption by corporate owners, but it does not come from the value created in the business's productive operations. So, as a matter of logic, this increment of net assets will be measured by NRM but won't be measured by IOM. The following quotations from Paton and Littleton [1940] and Bedford [1965] are the evidence supporting this deduction :

[T]he changes in asset associated with equity transactions are in a class apart, quite distinct from the asset-acquisitions and asset-relinquishments which arise in carrying on the operating objectives of the corporation. (Paton and Littleton p. 114)

Any gain derived from retiring shares, being in the nature of a contribution to capital in the form of a donation or forgiven debt, should be credited to paid-in surplus. (Paton and Littleton p. 115)

If income were to be considered as the increase in 'generalized means to satisfy human wants,' it would have to include gifts, stolen goods, findings, gains

from illegal activities, contributions, and similar items [...] [...] Normally, most of the above items are not considered part of business income. [...] [I]ncome from gifts may be an effective measure of the success of a church, but is of negligible use in evaluating the success of a business corporation. (Bedford p. 71)

The analysis of classic American accounting theories reveals the constitutive difference between NRM income and IOM income and the cause of this difference. When business is viewed as a wealth generator for consumptive individual (owner of the business), NRM, which measures the change in the amount available for human consumption as income, is adopted. On the other hand, when business is viewed as a productive unit, IOM, which measures the value created by business's productive operations, is adopted. Consequently, the gross amount of revenues and expenses is recognized only by IOM, and the increment of net assets without conducting productive operations, or donation and forgiveness of debt, is recognized only by NRM. Therefore, the income measured by NRM does not correspond to the income measured by IOM.

3. Case-Study Discussion : JAL's Case in Japan

3.1. The General Picture of Japan Airlines (JAL)

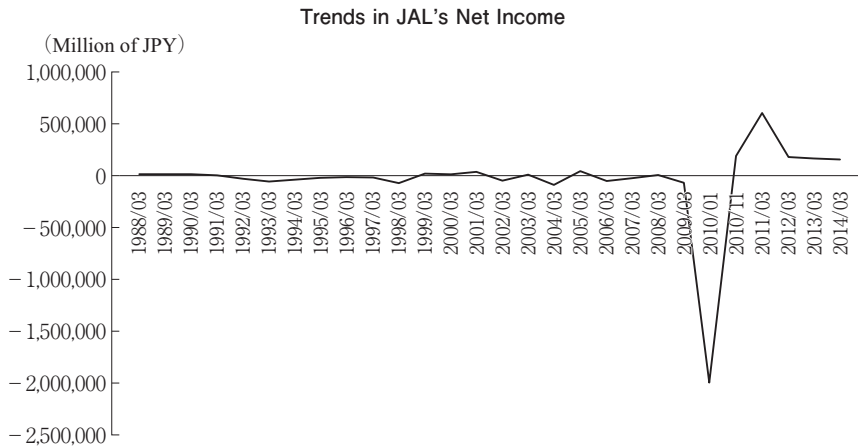
One of the most typical cases to emphasize the difference between ALV income information and REV income information is the case of Japan Airlines Co., Ltd. (JAL).

JAL is the national flag carrier of Japan. It was organized on October 1st, 1953, under the Japan Airlines Company Act, which was implemented on August 1st, 1953. JAL was listed on the Tokyo Stock Exchange (TSE), Osaka Stock

Exchange (OSE) and Nagoya Stock Exchange (NSE) on February 2nd, 1970, and was fully privatized on November 18th, 1987, when the Japan Air Lines Company Act was repealed. After that, in spite of the integration of various businesses, JAL filed a petition for protection with the Tokyo District Court under the Corporate Reorganization Act (like Chapter 11 reorganization in the US) on January 19th, 2010. The TSE, OSE and NSE delisted JAL's stock on February 20th, 2010 after receiving the petition. On September 19th, 2012, 2 years and 7 months after the delisting, JAL was relisted on the TSE.

3.2. Trends in the Net Income of JAL

The following line chart shows trends in the net income reported by JAL through 26 years, from its privatization until this year. The data was obtained from NIKKEI NEEDS FinancialQUEST2.0.



JAL released 28 financial statements (excluding half results and quarterly results) between 1988 and 2014. Because JAL's net income reported from 1988 to 2009 only fluctuated between 59,272 million JPY and -87,395 million JPY, the

volatility during this period was relatively less than the volatility between the delisting and relisting.

During the 2 years and 7 months between delisting and relisting, JAL released four financial statements (excluding half results and quarterly results). The following table shows the month of report, the accounting period and the value of net income. During this period, JAL's net income fluctuated between 621,073 million JPY and -2,008,074 million JPY.

JAL'S Financial Date from 2010 to 2013

Month of Report (YYYY/MM)	Accounting Period (Months)	Net Income (Million of JPY)
2010/01	9	-2,008,074
2010/11	10	180,990
2011/03	4	621,073
2012/03	12	186,616

We can draw some interesting conclusions from this statement. First, the net loss reported in January 2010 is the largest loss since JAL was privatized. This situation is consistent with our intuition because we can presume that JAL's reorganization produced huge restructuring costs. In fact, JAL booked 1,345,431 million JPY of restructuring costs (losses on disposal of assets and losses on asset valuations), and these costs enlarged the loss during this period.

Second, during 4 months before March 2011, JAL reported the largest income (621,073 million JPY) since it was privatized. This situation is not consistent with our intuition. Although the accounting period was only one third as long as a normal accounting period, a reorganizing company reported the largest income in its 26-year history after privatization.

3. 3. Does the Net Income Reflect the Reorganization of JAL's Business ?

Does the net income reported in March 2011 reflect the reorganization of JAL's business ? It can be concluded that this net income does not reflect that. To verify this point, the income statement reported in March 2011 should be analyzed.

As the income statement shows, JAL reported 383,021 million JPY of revenues and 621,073 million JPY of net income. In other words, JAL's net income in this period was 1.6 times as much as revenues.

The cause for the rise in net income was gain from forgiveness of debt. According to the Nikkei, JAL was forgiven 521,600 million JPY of general debt (bank loans payable, bonds payable and debt from derivative contracts), which was 87.5% of all its debt at that time (based on figures published by the Nikkei on July 23rd, 2010, p. 1), and 591,642 million JPY of forgiveness of debt, including the forgiveness of general debt, drove up the net income during the period.

As discussed in the last section, gain from forgiveness of debt belongs to (a) and is not the value created by a business's productive operations. Therefore, the income does not indicate how JAL has reorganized, because net income including gain from forgiveness of debt does not reflect JAL's earning power. In fact, gain from forgiveness of debt was reported only twice in 26 years after JAL was fully privatized : 591,642 million JPY in March 2011, and 1,277 million JPY in March 2012.

On the other hand, gains from forgiveness of debt increase the amount available for human consumption. However, the owner of JAL was the government of Japan at that time, because JAL was under the Corporate Reorganization Act. Because the government of Japan is not a consumer, it is meaningless to measure the change in wealth attributable to the government. But measuring the change in wealth attributable to the future general stockholders of a business aiming at relisting may be meaningful. Gain from forgiveness of debt has

Japan Airlines Co., Ltd.
Consolidated Income Statement

For the Four Months Ended March 31, 2011

(Million of JPY)		
Revenues		383,021
Cost of Business		288,947
Gross Margin		94,074
Selling and General Administrative Expenses		52,859
Operating Income		41,215
Non-Operating Revenues		9,907
Interest Received	265	
Dividends Received	353	
Gain on Disposal of Aircraft	6,425	
Others	2,863	
Non-Operating Expenses		9,081
Interest expense	1,545	
Loss on Disposal of Aircraft	1,772	
Equity in Losses of Affiliates	876	
Expenses Related to Financing	3,089	
Others	1,797	
Current Earnings		42,041
Extraordinary Gains		591,642
Gain from Forgiveness of Debt	583,707	
Others	7,934	
Extraordinary Losses		10,881
Loss on Disposal of PPE	2,109	
Losses on Partly Finalizing Retirement Benefit	1,970	
Disposition Fee of Lease Cancel	1,893	
Others	4,908	
Net Income before Income Taxes		622,802
Income Taxes and Others		1,693
Income Taxes – Deferred		△1,461
Net Income before Minority Interests in Income		622,569
Minority Interests in Income		1,496
Net Income		621,073

From : http://www.jal.com/ja/corporate/publicnotices/pdf/index_001.pdf

to be included in net income in order to measure the change in the amount which the future owner of JAL will be able to consume.

Thus, net income reported in March 2011 is the change in wealth attributable to the future general stockholders of JAL but is not the value created by business operations. The reorganization of JAL's business should be judged by the gross amount of revenues and expenses as the value created and diminished by the business's productive operations, not by the net income including gain from forgiveness of debt.

4 . Summary and Conclusion : Mutually Complementary Relationship between ALV and REV

Based on four classic American accounting theories, this paper revealed a relation between the view of a corporation and the use of ALV or REV as its income measurement model. In ALV, a corporation is viewed as a consumer or a wealth generator for consumptive individual (owner of the business), and income is determined by NRM in order to measure the change in the amount which can be consumed (excluding capital contributions or capital withdrawals). On the other hand, in REV, a corporation is viewed as a productive unit, and income is determined by IOM in order to measure the value created by its productive operations.

Since they have different components, one income valuation method cannot be used as a substitute for the other. In other words, these incomes are a complementary pair. If a measure of changes in the amount which the owners of a business can consume (excluding capital contributions or capital withdrawals) is needed, the change in amount of wealth must constitute income, but income need not be constituted only by the value created by the business's productive operations.

By contrast, if a measure of the value created by a business is needed, income must be constituted only by the value created by its productive operations, and the change in wealth without value creation must be excluded.

Generally speaking, “Most productive activity in the United States is carried on through investor-owned business enterprises” (FASB [1978] par. 12). Evaluating a business entity like this requires income information that indicates the pure ability of its productive operations to create value. As discussed in JAL’s case, net income including gain from forgiveness of debt, which represents changes in wealth without value creation, does not indicate a business’s ability to create value.

In contrast, generally speaking, “a business enterprise is a source of cash” as well (FASB [1978] par. 25). Evaluating a business entity like this requires income information that indicates its ability to generate wealth. This type of income must include all elements that enrich owners of the business.³⁾

Regarding the four classic American accounting theories, the significance of two types of income information can be recognized. One indicates the value created by the business’s productive operations; the other indicates the amount which the owner of the business can consume (excluding capital contributions or capital withdrawals). In our day, this significance is not lost. In fact, JAL’s case implies this significance. It is important to recognize the mutually complementary relationship between ALV and REV and to build up an income measurement structure containing at least two sections: one measures the value created by the business’s productive operations, and the other measures the change in the amount that the owner of the business can consume (excluding capital contributions or

3) The amount available for consumption by owners may be changed by the increase or decrease in the valuation amount of assets and liabilities. For example, if the fair value of a fixed asset increases, disposing of it will increase the amount available for owners’ consumption. In order to measure income that contains valuation differences, we may need to introduce fair value accounting to income measurement, along with Edwards and Bell or Sterling.

capital withdrawals).

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